

## CLAIMS

What is claimed is:

1. A level detector for a water based solution, comprising:

two electrical conductors, of different periodic electro-negativity, placed such that a rising solution will contact the surface area of both conductors;

an electrical current sensor arranged to produce an electrical signal indicative of the current generated by the two conductors in solution;

wires connecting the electrical energy produced by the conductors to the electrical current sensor;

a power source for the current sensor so as not to place a load on the conductors;

means for providing a reference signal representative of a desired current level; and

means for comparing the electrical signal indicative of the current generated by the two conductors in solution to the reference signal and producing a third output electrical signal indicative of whether the current is above or below the desired current level.

2. The detector according to Claim 1 wherein the reference signal is produced by summing a current from the power supply to offset the current generated by the two conductors.

3. The detector according to Claim 1 further comprising:

a timer; and

a relay;

wherein the timer is started by the third output electrical signal and the timer has a delay on break logic such that the timer signals the relay to make continuously whenever the third output electrical signal is present, and signals the relay to break only after removal of the third output electrical signal for a predetermined time interval.

4. The detector according to Claim 1 further comprising:

means for periodically connecting the current sensor to one, or both, of the conductors.

5. A level detector for a water solution, comprising:

two electrically conductive elements placed such that a rising solution will contact the surface area of both elements;

a current sensor which may be selectively enabled and disabled;

wires connecting the conductive elements to the current sensor;

a power source;

means for applying periodic pulsed electrical energy from the power source to the conductive elements while the current sensor is disabled;

means for enabling the current sensor after such pulsed electrical energy is removed; and

means for producing an electrical signal indicative of the current generated by the two conductive elements in solution while the current sensor is enabled.